

REMARKS

This application has been amended in a manner that is believed to place it in condition for allowance at the time of the next Official Action.

Claims 32-65 are pending in the present application. Claims 32-62 have been amended to more particularly point out and distinctly claim the subject matter of the invention. New claims 63-65 have been added. Support for new claims 63-65 may be found generally throughout the specification and in original claims 37, 54, and 56, respectively.

In the outstanding Official Action, the specification was objected to for allegedly containing several informalities. The Official Action alleged that the specification did not comply with the preferred layout for the specification of a utility application. In the interest of advancing prosecution, the appropriate section headings have been added to the present specification.

The outstanding Official Action also stated that the claims should be prefaced with a sentence. The Official Action also stated that several informalities were present in claims 32, 54, and 55. In accordance with the Examiner's suggestion, the claims have been prefaced with the sentence "The invention claimed is:". Moreover, claims 32, 54, and 55 have been amended so that --a--, and not "an" is used prior to the terms

"heat" and "use". Applicants would like to thank the Examiner for his suggestions as how to overcome these objections.

In the outstanding Official Action, claims 32-62 were rejected under 35 USC §112, second paragraph, as allegedly being indefinite. It is believed that the present amendment obviates this rejection.

The outstanding Official Action alleged that the claims were generally narrative and indefinite in that they did not conform to current U.S. practice. In the interest of advancing prosecution, the claims have been reviewed for grammatical and idiomatic errors resulting from the translation of the foreign application into English. Indeed, applicants believe that the claims have been amended so as to obviate the contention that the claims are indefinite.

However, applicants traverse the assertion that it is unclear the phrase "on average" is indefinite to one of ordinary skill in the art. Applicants believe that one of ordinary skill in the art would understand that polymeric products are a collection of molecules that are not rigorously identical to each other. A description of the properties of such collections may nevertheless be provided and considered definite by one of ordinary skill in the art by reciting the average. Indeed, it is common in the art of macromolecular chemistry to characterize properties such as molecular weight,

composition, or microstructures by the average of the given property over the collection of molecules.

In fact, in the present specification, this method of averaging is specified as "mass averages". Moreover, the present specification provides a definite description of how the average number of polymeric segments characterizing collection of polymers of the invention may be calculated (see page 44, lines 25-36).

Thus, in view of the above, it is believed that claims 32-62 are definite to one of ordinary skill in the art.

In the outstanding Official Action, claims 32-39 and 41-62 were rejected under 35 USC §102(b) as allegedly being anticipated by or, in the alternative, under 35 USC §103(a) as allegedly obvious over WO 98/10274 (WO '274). This rejection is respectfully traversed.

Applicants respectfully submit that the WO '274 publication fails to disclose or suggest the claimed invention. Applicants believe that the WO '274 publication fails to disclose or suggest each and every recitation of the claimed invention.

In imposing the rejection, the Examiner states that the block copolymers described in the WO '274 publication are of the structure ABA or BAB. In other words, the two structures present two non-contiguous groups of polymer

segments such as P or B. In fact, block polymers are disclosed in WO '274 by the following formulas:

- 1) A_xB_y ,
- 2) $A_xB_yA_z$,
- 3) $B_xA_yB_z$, or
- 4) $A_xB_yC_z$.

However, upon viewing the formulas, it is apparent that the block copolymers disclosed in the WO '274 publication cannot present more than two non-contiguous segments with an LCST. In fact, this stands true even if subpopulations presenting an LCST in the electrolyte were found among the detailed descriptions of blocks A (in Formula 2), B (in Formula 3) or A and C (in Formula 4).

In contrast, the claimed block copolymers have more than two non-contiguous segments exhibiting an LCST in the electrolyte. Thus, the WO '274 publication fails to disclose a polymer of the multiplicity of LCST segments as set forth in the claimed invention.

As a result, the WO '274 publication fails to disclose or suggest each and every recitation of the claimed invention and the WO '274 publication fails to anticipate or render obvious claims 32-39 and 41-62.

In an effort to remedy the deficiencies of the WO '274 publication, the Examiner then rejects claims 32-38 and

40-62 under 35 USC §103(a) as allegedly being unpatentable over HOOPER 5,885,432 in view of the WO '274 publication with alleged evidence provided by the present invention or EP 0 583 814. This rejection is respectfully traversed.

Indeed, as noted above, the WO '274 publication fails to disclose or suggest block copolymers having more than two non-contiguous segments exhibiting an LCST in an electrolyte. In fact, the WO '274 publication indicates that it is difficult to predict a good separation medium and that the disclosed copolymers were identified using empirical rules and tests (page 27, line 8).

Applicants believe that the HOOPER publication, the alleged evidence provided by the present specification, and the EP 0 583 814 publication, all fail to remedy the deficiencies of the WO '274 publication. Indeed, upon reviewing the Hooper patent, it is evident that the viscous behavior shown in the HOOPER patent exhibits a decrease in the viscosity with temperature (Figure 5a). This stands in contrast to the claimed invention which recites that an increase in viscosity occurs with an increase in temperature.

Moreover, the HOOPER patent presents the decrease of viscosity as an advantageous embodiment. Therefore, HOOPER would actually discourage attempts by one of ordinary skill in

the art to use polymers for the multiplicity of LCST segments to reach thermo-thickening properties.

Thus, the HOOPER patent fails to disclose or suggest copolymers showing a contrary viscous behavior and actually teaches away from the claimed invention.

Applicants traverse the assertion that the present specification provides evidence against the claimed invention. Indeed, in light of the severe deficiencies of the WO '274 publication and the HOOPER patent, one of ordinary skill in the art would not find that claims 32-38 and 40-62 have been rendered obvious.

As a result, applicants believe that one of ordinary skill in the art would not find that the proposed combination renders obvious the claimed invention.

Thus, in view of the present amendment and the foregoing remarks, therefore, it is believed that this application is now in condition for allowance, with claims 32-65, as presented. Allowance and passage to issue on that basis are accordingly respectfully requested.

Please charge the fee of \$54 for the three extra claims of any type added herewith, to Deposit Account No. 25-0120.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



Philip Dubois, Reg. No. 50,696
745 South 23rd Street
Arlington, VA 22202
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

PD/lk